

REMARKS

Claims 8-13 stand allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 6, and 18-20 stand rejected under 35 USC §112, the Examiner has objected to the term "even length magnets". Claims 2-6, 14-16, and 18-20 stand rejected under 35 USC §102(b) as being anticipated by Dolivo et al., U.S. patent 5,260,976.

Claims 3-6, 8, 18, and 20 have been amended to more clearly state the invention. Claims 2 and 7 have been cancelled. Indicated allowable claim 8, has been rewritten in independent form including all of the limitations of the base claim and any intervening claims. Independent claims 6 and 18, as amended, more clearly state the invention and are patentable over the references of record.

Reconsideration and allowance of each of the pending claims 3-6, 8-16, and 18-20, as amended, is respectfully requested.

An exemplary word synchronization pattern in accordance with the preferred embodiment for use with the synchronization detector 128 of the preferred embodiment is illustrated and described with respect to FIG. 2 in the present application. As set forth at page 5, starting at line 27, In FIG. 2, there is shown a word synchronization pattern in accordance with the preferred embodiment. As shown in FIG. 2, an encoder sequence a_k for the sync field and word synchronization pattern is shown at the top of the diagram. The corresponding PR4 signal is shown in the center and the corresponding detected sequence $a_k(1-D^2)$ is shown at the bottom of the chart. The word synchronization pattern of the preferred embodiment includes a doubleword

sync pattern or repeat unit 200. The word synchronization pattern 200 includes only even length magnets. At the top of FIG. 2, write current or encoder sequence a_k that is going through the recording head includes 2L, 4L, 2L, 2L, 8L, 2L, 2L, 8L, 2L, 2L, i.e., only even length magnets or only one or more sequential pairs of zeros and one or more sequential pairs of ones. Magnetically, when this pattern is written to the disk, the process of writing the pattern involves the changing of the write current that is going through the recording head for example, during a two bit time the write process may change from a north magnet to a south magnet on the disk to provide only even length magnets. As shown, there are no one length magnets or odd length magnets in the write current encoder sequence a_k . This is easier to write in DASD data channel 100. The word synchronization pattern 200 follows a synchronization field generally designated by 202. In FIG. 2, a representative portion of the sync field 202 is shown including 2L, 2L, 2L, 2L. The word synchronization pattern 200 is a repetition code including pairs of zeros and pairs of ones, 2L, 4L, 2L, 2L, 8L, 2L, 2L, 8L, 2L, 2L. The word synchronization pattern 200 includes multiple pattern match and sign sequences 204, 206, and 208. A word sync field preceding customer data may include, for example, a four byte word sync or a single word synchronization pattern 200, an eight byte word sync or a pair of concatenated word synchronization patterns 200 or a twelve byte word sync or three concatenated word synchronization patterns 200.

Thus, Applicants respectfully submit that the term even length magnets is illustrated and described with respect to FIG. 2 and that one skilled in the art is enabled to make and use the invention. Independent claims 6, and 18, as amended, the term

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even length magnets has been deleted and this feature is now recited that said predefined word synchronization pattern including only one or more sequential pairs of zeros and one or more sequential pairs of ones.

Reconsideration and withdrawal of the rejection of claims 6, and 18-20 under 35 USC §112, is respectfully requested.

Dolivo et al., U.S. patent 5,260,976 discloses a method and apparatus for detection of a timing data sequence and an end-of-preamble (EOP) flag based on a maximum-likelihood (ML) test performed on received data timing samples after synchronization has been achieved. The preamble preceding transmitted user data consists of a timing sequence followed by a known sequence of bits marking its end. After detection of synchronization, the receipt of the timing data sequence is recognized when an ML test detects no more than n_v violations during a sequence of n_i received samples. Similarly, the receipt of the EOP flag is recognized as soon as n_F violations an ML test have occurred in the received sample sequence after recognition of the timing data sequence.

Only applicant teach a predefined word synchronization pattern including only one or more sequential pairs of zeros and one or more sequential pairs of ones, as recited in independent claims 6, and 18. The Dolivo et al. reference does not disclose, and provides no suggestion of this feature. Thus, each of the independent claims 6, and 18, as amended, is patentable.

Applicants have reviewed all the art of record, and respectfully submit that the claimed invention is patentable over all the art of record, including the references

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not relied upon by the Examiner for the rejection of the pending claims.

It is believed that the present application is now in condition for allowance and allowance of each of the pending claims 3-6, 8-16, and 18-20 is respectfully requested. Prompt and favorable action is respectfully requested.

If the Examiner upon considering this amendment should find that a telephone interview would be helpful in expediting allowance of the present application, the Examiner is respectfully urged to call the applicants' attorney at the number listed below.

Respectfully submitted,

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